



Giving the Warfighter the Tools for Counterterrorism: Statistically Speaking

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The long-range contribution of statistics depends not so much upon getting a lot of highly trained statisticians into industry as it does in creating a statistically minded generation of physicists, chemists, engineers, and others who will in any way have a hand in developing and directing the production processes of tomorrow.

- W.A.Shewhart & W.E.Deming



Major Themes

- Flexibility
- Capability
- Reliability
- Privacy

A knowledge of statistics is like a knowledge of foreign languages or of algebra; it may prove of use at any time under any circumstances.

- A. I. Bowley



Acquisition Flexibility

- Rise in Efficiency Among Producers
- The Pace of Technology
- The Pace of Threats



Flexibility Examples

- Joint Rapid Acquisition Cell
 - Meet Immediate Warfighter Needs
 - Diverse Experience Base
 - Leveraging Technology



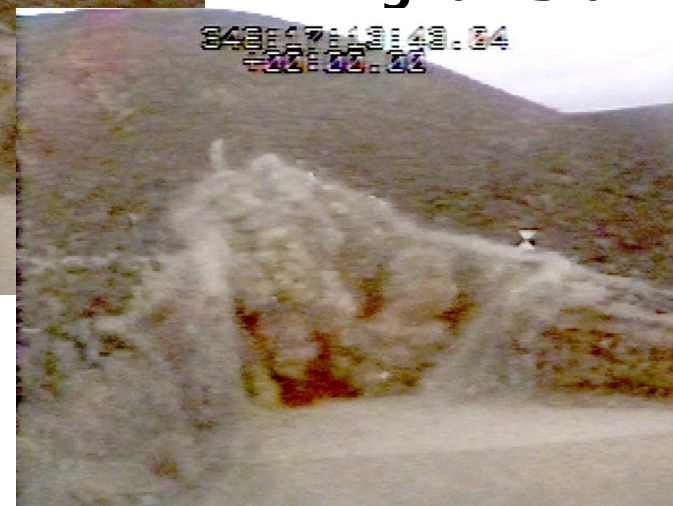
Flexibility Examples

- Quick Reaction Special Projects
 - Defense Acquisition Challenge Program
 - Technology Transition Initiative
 - Combating Terrorism Technology Task Force



Thermobaric Weapon

**Deployed &
Employed in
Operation
Enduring
Freedom (OEF) in
Afghanistan**



Chemistry to Fielded System - 90 Days



Providing Capability

- Impacted by Trends in U.S. Education
- Lacking Statistical Knowledge
 - Applying principles of optimal experimental design to non-standard situations
 - Methods for combining information from developmental test and tests of other systems with the results of operational test
 - State-of-the-art validation of simulation models for augmenting operational testing
- Testing Critical to Acquisitions

Increasing Access to Statistical Expertise

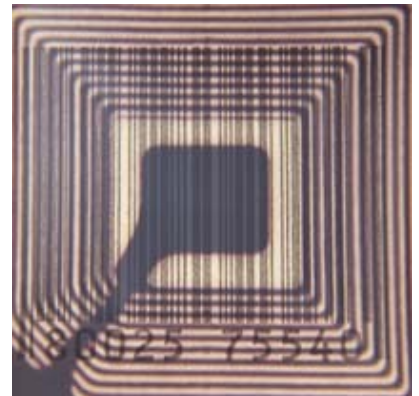


Logistics Reliability

- Unique Identification (UID)
- Remote Frequency Identification (RFID)
- Statistical Volume of DoD Inventory



UID



RFID



Privacy Issues

- Technology & Privacy Advisory Committee
- Implementation Emphasis on DoD



Privacy Issues Continued

- Must Not Sacrifice Liberty for Security
- Data Mining
- Concerns
 - False Positives
 - Mission Creep

“they that can give up essential liberty to purchase a little temporary safety deserve neither liberty nor safety” - Benjamin Franklin



Summary

- Counterterrorism Mandates
 - Flexibility
 - Capability
 - Reliability
 - Privacy



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BACKUP



The Challenge: Pace of Technology

- “Moore’s Law” → Computing doubles every 18 months
- “Fiber Law” → Communication capacity doubles every 9 months
- “Disk Law” → Storage doubles every 12 months

Defense Acquisition Pace (*circa 2003*)

F-22
05*

Milestone I: Oct 86

IOC: Dec

Comanche Milestone I: Jun 89 IOC: Sep 09

*** Computers at IOC are 512 X faster, hold 65,000 X bits of information than they did at MS I**

Technology growth is non-linear...
Acquisition path has been linear



Dragon Eye (DE)-ATR

(Chem-Bio-Video Advanced Tactical Recce)

DE-ATR with CBRV Nose cone (Insert)



Description:

- Visual Battle Damage Assessment (BDA)
- Real time chemical agent detection and data transmission to ground station
- Collection of biological agents
- Ground-based bioagent analysis 30 - 45 min

Retrofitted New Sensors: ~ 1 month

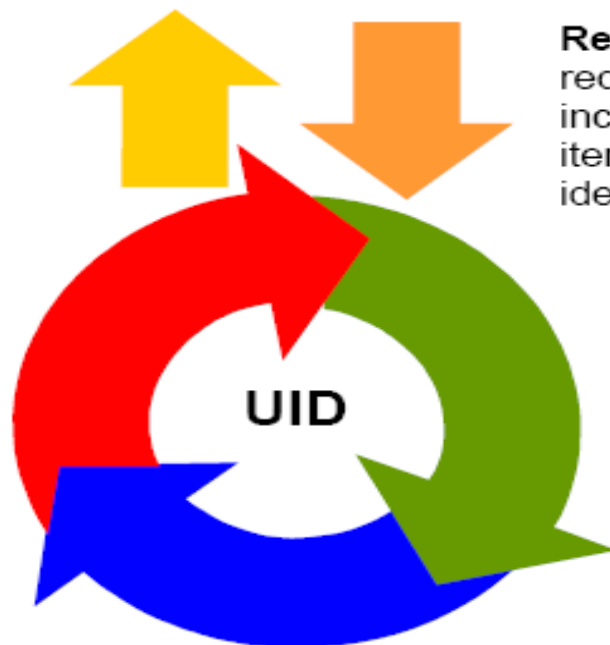
Deployed to Support Operational Iraqi Freedom Today



The UID Lifecycle

Dispose – DoD/GSA records the “termination” of the UID at time of item disposal

Use – Functional stakeholders use UID as a primary or alternate key in the AIS to access or update item information based on its UID



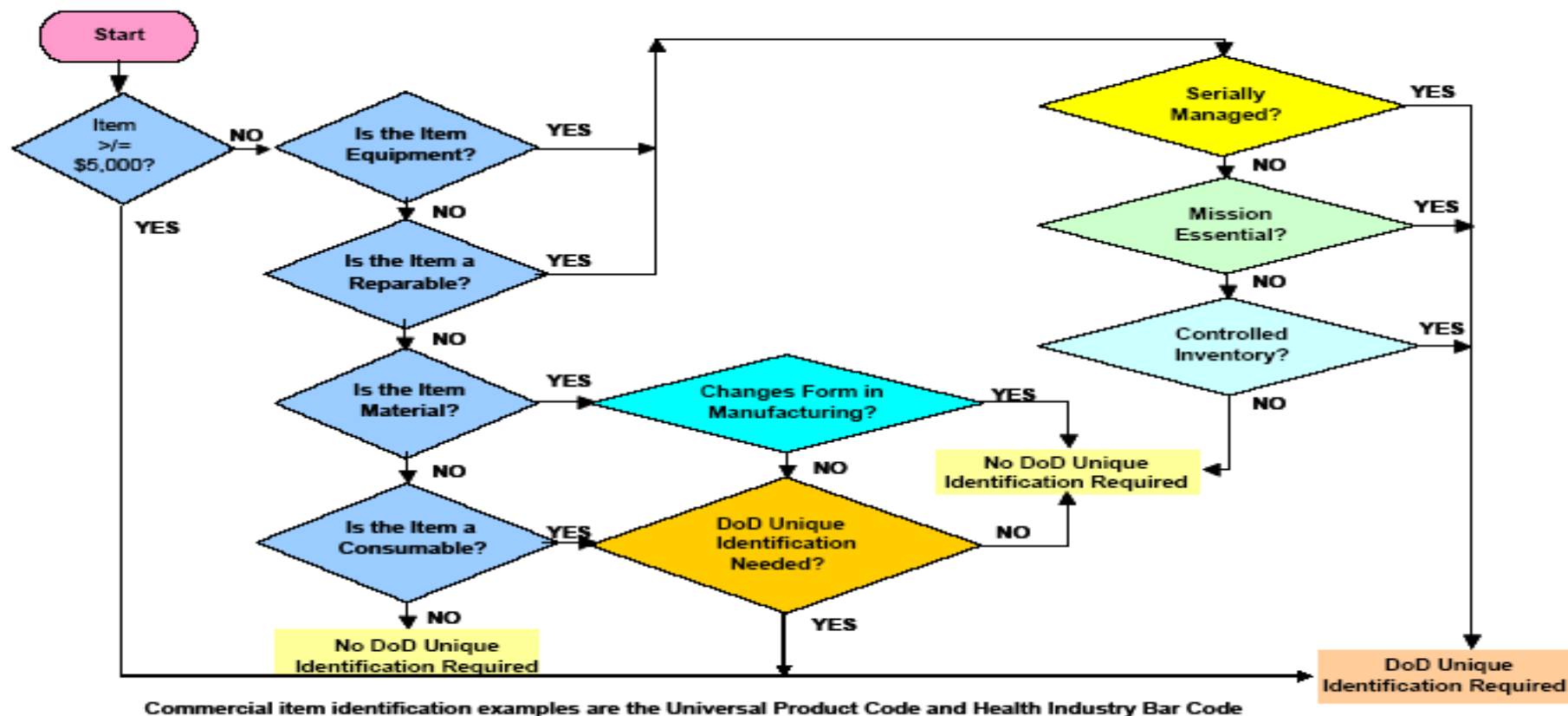
Require – DoD contracts reflect the requirement for part marks to include UID data elements for all items which require unique identification

Create/Generate – Industry suppliers/manufacturers throughout supply chain assign and apply UID data elements and ensure the uniqueness of the combined component data

Capture – DoD establishes the “birth” record of the UID by capturing the component data elements to create the UID in the AIT/AIS.



Decision Tree to UID Items Under \$5000





Phase I (Sep 2001 – Feb 2002)

Key Near-Term Technologies

Thermobaric Weapon

• Ministry to Fielded System -
90 Days

• Teaming:

- Defense Threat Reduction Agency
- Air Force Research Laboratory
- Air Armament Center
- Naval Surface Warfare Center
- Air Combat Command
- DoE / Lawrence Livermore National Lab



**Nuclear
Quadrupole
Resonance**



**Deployed & Employed
in Operation Enduring
Freedom (OEF)**



Conventional Air Launched Cruise Missile (CALCM) Penetrators



**Deployed /
Employed
in
Operation
Iraqi
Freedom
(OIF)**

